

AMENDMENTS TO THE CLAIMS

1-15. (Cancelled)

16. (New) A sensor circuit for active-sensor scanning, comprising:

a magnet disposed about a sensor unit that is magnetically coupled to a magnetic encoder arranged in a sidewall of a magnetized tire, wherein the sensor unit detects wheel speed, and dynamic deformation of an air gap between the sensor unit and the magnetic encoder.

17. (New) The sensor circuit according to Claim 16, wherein the sensor unit includes a first housing including a magneto-converter element; and a second housing including an electronic signal processing circuit, wherein the electronic signal processing circuit is operatively coupled to the magneto-converter element by a 4-pole electric connection.

18. (New) The sensor circuit according to Claim 17 further comprising a control device; and a first pin extending from the second housing; and a second pin extending from the second housing, wherein the first and second pin are operatively coupled to the control device, wherein the second pin provides an operating voltage to the sensor unit, wherein the first pin provides a signal output from the sensor unit to the control device.

19. (New) The sensor circuit according to Claim 16, wherein the encoder is a permanent-magnet-type encoder.

20. (New) The sensor circuit according to Claim 16, wherein the encoder is a ferromagnetic-type encoder.

21. (New) The sensor circuit according to Claim 16, wherein the wheel speed and dynamic deformation of an air gap is identified by a sinusoidal signal current amplitude range approximately equal to 11mA, plus or minus 4mA.

22. (New) A sensor circuit for active-sensor scanning, comprising:

a magnet disposed about a sensor unit that is magnetically coupled to a magnetic encoder arranged in a sidewall of a magnetized tire, wherein the relation of the magnet and magnetic encoder results in a sinusoidal signal current provided to a control device of a brake system,

wherein the sinusoidal signal is indicative of

wheel speed, and

dynamic deformation of an air gap between the sensor unit and the magnetic encoder.

23. (New) The sensor circuit according to Claim 22, wherein the sinusoidal signal current is defined by an amplitude range approximately equal to 11mA, plus or minus 4mA.

24. (New) A sensor circuit for active-sensor scanning, comprising:

a magnet disposed about a sensor unit that is magnetically coupled to a magnetic encoder arranged in a sidewall of a magnetized tire, wherein the relation of the magnet and magnetic encoder provides a sinusoidal current signal to a regulating unit of a brake system indicative of at least

phase relation,

wheel speed, and

dynamic deformation of an air gap between the sensor unit and the magnetic encoder.

25. (New) The sensor circuit according to Claim 24, wherein the sinusoidal signal current is defined by an amplitude range approximately equal to 11mA, plus or minus 4mA.

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figures 1a) –1d), Figures 2a) and 2b), and Figures 3a) and 3b).

Attachment: Three replacement sheets